



**SECOND QUARTER 2011
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS**

Prepared for:

SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.16

August 26, 2011

SECOND QUARTER 2011
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 FIELD PROCEDURES	1
3.0 LABORATORY PROCEDURES.....	3
4.0 QUALITY ASSURANCE	3
5.0 OBSERVATIONS.....	4
6.0 REFERENCES.....	4

TABLES

	<u>Table</u>
Monitoring Well Gauging Information.....	1
Groundwater Analytical Results	2
Monitored Natural Attenuation Results Summary	3

ILLUSTRATIONS

	<u>Plate</u>
Site Location Map.....	1
Monitoring Well Location Map	2

APPENDICES

	<u>Appendix</u>
Groundwater Purging and Sampling Forms	A
Chain-of-Custody.....	B
Quality Assurance Report	C
Groundwater Analytical Results (with Data Review Sheets)	D

SECOND QUARTER 2011
DATA REPORT
ILLINOIS ROUTE 3 DRUM SITE
GROUNDWATER SAMPLING
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

1.0 INTRODUCTION

Solutia Inc. (Solutia) is conducting groundwater monitoring activities as outlined in the Revised Illinois Route 3 Drum Site Operation and Maintenance Plan (Solutia, 2008). The Illinois Route 3 Drum Site (Site) is an area associated with the Solutia W.G. Krummrich (WGK) Facility located in Sauget, Illinois that is subject to a RCRA Administrative Order on Consent (AOC) entered into by the U.S. EPA and Solutia on May 3, 2000. This report presents the results of the sampling event completed in 2nd Quarter 2011 (2Q11). The Site is located in the area identified as "Lot F" in Figure 1.

During the 2Q11 sampling event, groundwater samples were collected from two Shallow Hydrogeologic Unit (SHU) monitoring wells, designated GM-31A and GM-58A (Figure 2), located hydraulically downgradient of the Site. Samples from each well were analyzed for select semivolatile organic compounds (SVOCs) using EPA Method 8270C. In addition, samples were collected from both wells for evaluation of monitored natural attenuation (MNA). The types of natural attenuation processes active at the site were determined by measurements of the following key geochemical parameters: alkalinity, carbon dioxide, chloride, dissolved oxygen (DO), total and dissolved iron, total and dissolved manganese, methane, nitrate, sulfate, total and dissolved organic carbon, and oxidation-reduction potential (ORP).

2.0 FIELD PROCEDURES

Geotechnology, Inc. (Geotechnology) personnel collected groundwater level measurements on May 16, 2011 and conducted the 2Q11 Illinois Route 3 Drum Site groundwater sampling on May 23, 2011. Groundwater samples were collected from two monitoring wells during the 2Q11 sampling event. This section summarizes the field investigative procedures.

Groundwater Level Measurements. An oil/water interface probe was used to measure depth to static groundwater levels and determine the presence of non-aqueous phase liquids (NAPL). Depth-to-groundwater measurements for the 2Q11 sampling event are presented in Table 1. NAPL was not detected in either of the monitoring wells.

Groundwater Sampling. Low-flow sampling techniques were used for groundwater sample collection. At each monitoring well, disposable, low-density polyethylene tubing was attached to a submersible pump, which was then lowered into the well to the middle of the screened interval. Monitoring wells were purged at a rate of 238 to 250 mL/minute to minimize drawdown. If significant drawdown occurred, flow rates were reduced.

Drawdown was measured periodically throughout purging to ensure that it did not exceed 25% of the distance between the pump intake and the top of the screen. Once the flow rate and drawdown were stable, field measurements were collected approximately every three to five minutes. Purging of a well was considered complete when the following water quality parameters remained stable over three consecutive flow-through cell volumes:

Parameter	Stabilization Guidelines
Dissolved Oxygen (DO)	+/- 10% or +/-0.2 mg/L, whichever is greatest
Oxidation-Reduction Potential (ORP)	+/- 20 mV
pH	+/- 0.2 units
Specific Conductivity	+/- 3%

Sampling commenced upon completion of purging. Prior to sample collection, the flow-through cell was bypassed to allow for collection of uncompromised groundwater. Samples were collected at a flow rate less than or equal to the rate at which stabilization was achieved. Sample containers were filled based on laboratory analysis to be performed. Bottles were filled in the following order:

- Gas Sensitive Parameters (e.g., carbon dioxide, methane)
- Semivolatile Organic Compounds (SVOCs)
- General Chemistry (i.e., alkalinity, chloride, total and dissolved iron, total and dissolved manganese, nitrate, sulfate, and total and dissolved organic carbon)
- Field Parameters (i.e., dissolved oxygen and oxidation reduction potential)

Samples for analysis of dissolved iron, dissolved organic carbon, and dissolved manganese were filtered in the field using in-line 0.2 micron disposable filters, represented by a "F(0.2)" in the sample nomenclature.

Quality Assurance/Quality Control (QA/QC) samples consisting of analytical duplicates (AD) and equipment blanks (EB) were collected at a rate of 10% and matrix spike/matrix spike duplicates (MS/MSD) were collected at a rate of 5%. One duplicate and one MS/MSD sample were collected.

Each sample was labeled immediately following collection. The groundwater sample identification system included the following nomenclature: "GM-31A-0511" which denotes Groundwater Monitoring well number 31A sampled in May 2011. QA/QC samples are identified by the suffix AD or MS/MSD. A notation of "F" in the sample nomenclature indicates a sample that was filtered in the field with a 0.2 micron filter.

Upon collection and labeling, sample containers were immediately placed inside an iced cooler, packed in such a way as to help prevent breakage and maintain inside temperature at or below approximately 4°C. Field personnel recorded the project identification and number, sample description/location, required analysis, date and time of sample collection, type and matrix of sample, number of sample containers, analysis requested/comments, and sampler signature/date/time, with permanent ink on the chain-of-custody (COC). Prior to shipment, coolers were sealed between the lid and sides of the cooler with a custody seal, and then shipped to TestAmerica in Savannah, Georgia by means of overnight delivery service. Field sampling data sheets are included in Appendix A. COC forms are included in Appendix B.

3.0 LABORATORY PROCEDURES

Samples were analyzed by TestAmerica for the 40 CFR 264 Appendix IX SVOCs, and MNA parameters (per the Route 3 Drum Site O&M Plan), using the following methodologies:

- SVOCs, via USEPA SW-846 Method 8270C - The constituents of concern (COCs) identified by the USEPA are biphenyl, 2,4-dichlorophenol, dinitrochlorobenzene, 3-nitrobenzene, 2-nitrobiphenyl, 3-nitrobiphenyl, 4-nitrobiphenyl, 2-nitrochlorobenzene, nitrochlorobenzene, 4-nitrochlorobenzene, pentachlorophenol, and 2,4,6-trichlorophenol.
- MNA parameters consisted of alkalinity (310.1), carbon dioxide (310.1), chloride (325.2), total and dissolved iron (6010B), total and dissolved manganese (6010B), dissolved organic carbon (415.1), nitrate (353.2), sulfate (375.4), dissolved gases (RSK-175), and total organic carbon (TOC) (415.1).

Laboratory results were provided in electronic and hard copy formats.

4.0 QUALITY ASSURANCE

Analytical data were reviewed for quality and completeness. Data qualifiers were added, as appropriate, and are included on the data tables and the laboratory result pages. The Quality Assurance report is included as Appendix C. The laboratory report and data review sheets are included in Appendix D.

A total of six groundwater samples (two investigative groundwater samples, one field duplicate, one MS/MSD pair, and one equipment blank) were prepared and analyzed by TestAmerica for SVOCs and MNA parameters. The results for the various analyses were submitted as sample delivery group (SDG) KOM012 and contained results for GM-31A and GM-58A. Evaluation of the analytical data followed procedures outlined in the USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review (USEPA 2004). Based on the above mentioned criteria, results reported for the analyses performed were accepted for their intended use. Acceptable levels of accuracy and precision, based on MS/MSD, LCS, surrogate and field duplicate data were achieved for this SDG to meet the project objectives. Completeness, which is defined to be the percentage of analytical results which are judged to be valid, including estimated detect/non-detect data, was 100.0 percent.

5.0 OBSERVATIONS

SVOCs were detected in the groundwater samples collected from monitoring wells GM-31A and GM-58A during the 2Q11 sampling event. Laboratory analytical data for groundwater sample GM-31A-0511 indicated detections of 29 µg/L of 2,4,6-trichlorophenol. Laboratory analytical data for groundwater sample GM-58A-0511 indicates a detection of 33 µg/L of 2,4,6-trichlorophenol and 47 µg/L of 2-chloronitrobenzene/ 4-chloronitrobenzene. A summary of SVOC detections is provided in Table 2, with MNA results provided in Table 3.

6.0 REFERENCES

- Solutia Inc., 2008. Revised Illinois Route 3 Drum Site Operation and Maintenance Plan, W.G. Krummrich Facility, Sauget, IL, May 2008.
- U.S. Environmental Protection Agency (USEPA), 2004. Contract Laboratory Program National Functional Guidelines for Inorganic Data Review.
- U.S. Environmental Protection Agency (USEPA), 2008 National Functional Guidelines for Superfund Organic Methods Data Review.

TABLE 1J017210.16
August 2011**MONITORING WELL GAUGING INFORMATION**

Well ID	Construction Details						May 2011		
	Ground Elevation* (feet)	Casing Elevation* (feet)	Depth to Top of Screen (feet bgs)	Depth to Bottom of Screen (feet bgs)	Top of Screen Elevation* (feet)	Bottom of Screen Elevation* (feet)	Depth to Water (feet btoc)	Depth to Bottom (feet btoc)	Water Elevation* (feet)
Shallow Hydrogeologic Unit (SHU 395-380 feet NAVD 88)									
GM-31A	416.63	418.63	19.00	39.00	397.63	377.63	14.14	40.40	404.49
GM-58A	412.24	414.24	19.40	39.40	392.84	372.84	9.86	40.88	404.38

Notes:

* - Elevation based upon North American Vertical Datum (NAVD) 88 datum

bgs - below ground surface

btoc - below top of casing

TABLE 2J017210.16
August 2011**GROUNDWATER ANALYTICAL RESULTS**

Sample ID	Sample Date	1,1'-Biphenyl (µg/L)	1-Chloro-2,4-Dinitrobenzene (µg/L)	1-Chloro-3-Nitrobenzene (µg/L)	2,4,6-Trichlorophenol (µg/L)	2,4-Dichlorophenol (µg/L)	2-Chloronitrobenzene/ 4-Chloronitrobenzene (µg/L)	2-Nitrobiphenyl (µg/L)	3-Nitrobiphenyl (µg/L)	3,4-Dichloronitrobenzene (µg/L)	4-Nitrobiphenyl (µg/L)	Nitrobenzene (µg/L)	Pentachlorophenol (µg/L)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)													
GM-31A-0511	05/23/11	<10	<10	<10	29	<10	<20	<10	<10	<10	<10	<10	<50
GM-31A-0511-AD	05/23/11	<9.9	<9.9	<9.9	33	<9.9	20	<9.9	<9.9	<9.9	<9.9	<9.9	<50
GM-58A-0511	05/23/11	<10	<10	<10	17	<10	47	<10	<10	<10	<10	<10	<50

Notes:

µg/L = micrograms per liter

< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data

* = LCS, LCSD, MS, MSD, MD or surrogate exceeds the control limits

BOLD indicates concentration greater than the reporting limit

TABLE 3J017210.16
August 2011**MONITORED NATURAL ATTENUATION RESULTS SUMMARY**

Sample ID	Sample Date	Alkalinity (mg/L)	Carbon Dioxide (mg/l)	Chloride (mg/L)	Dissolved Oxygen (mg/L)	Ethane (µg/L)	Ethylene (µg/l)	Ferrous Iron (mg/L)	Iron (mg/L)	Iron, Dissolved (mg/L)	Manganese (mg/L)	Manganese, Dissolved (mg/l)	Methane (µg/l)	Nitrogen, Nitrate (mg/L)	Sulfate as SO4 (mg/L)	Dissolved Organic Carbon (mg/L)	Total Organic Carbon (mg/L)	ORP (mV)
Shallow Hydrogeologic Unit (SHU 395 - 380 ft NAVD 88)																		
GM-31A-0511	05/23/11	380	24	28	0.0	<1.1	<1.0		30		0.96		1.9	3.4	130		2.1J	79
GM-31A-F(0.2)-0511	05/23/11							0.41		<0.050		0.71				2.9J		
GM-58A-0511	05/23/11	490	47	46	0.04	<1.1	<1.0		20		1.6		1.7	0.15	92		3.6J	-46
GM-58A-F(0.2)-0511	05/23/11							0.43		2.5		1.5				3J		

Notes:

DO and ORP were measured in the field using a Horiba U22 equipped with a flow-thru cell.

Ferrous Iron readings were not measured in the field.

mg/L - milligrams per liter

µg/L = micrograms per liter

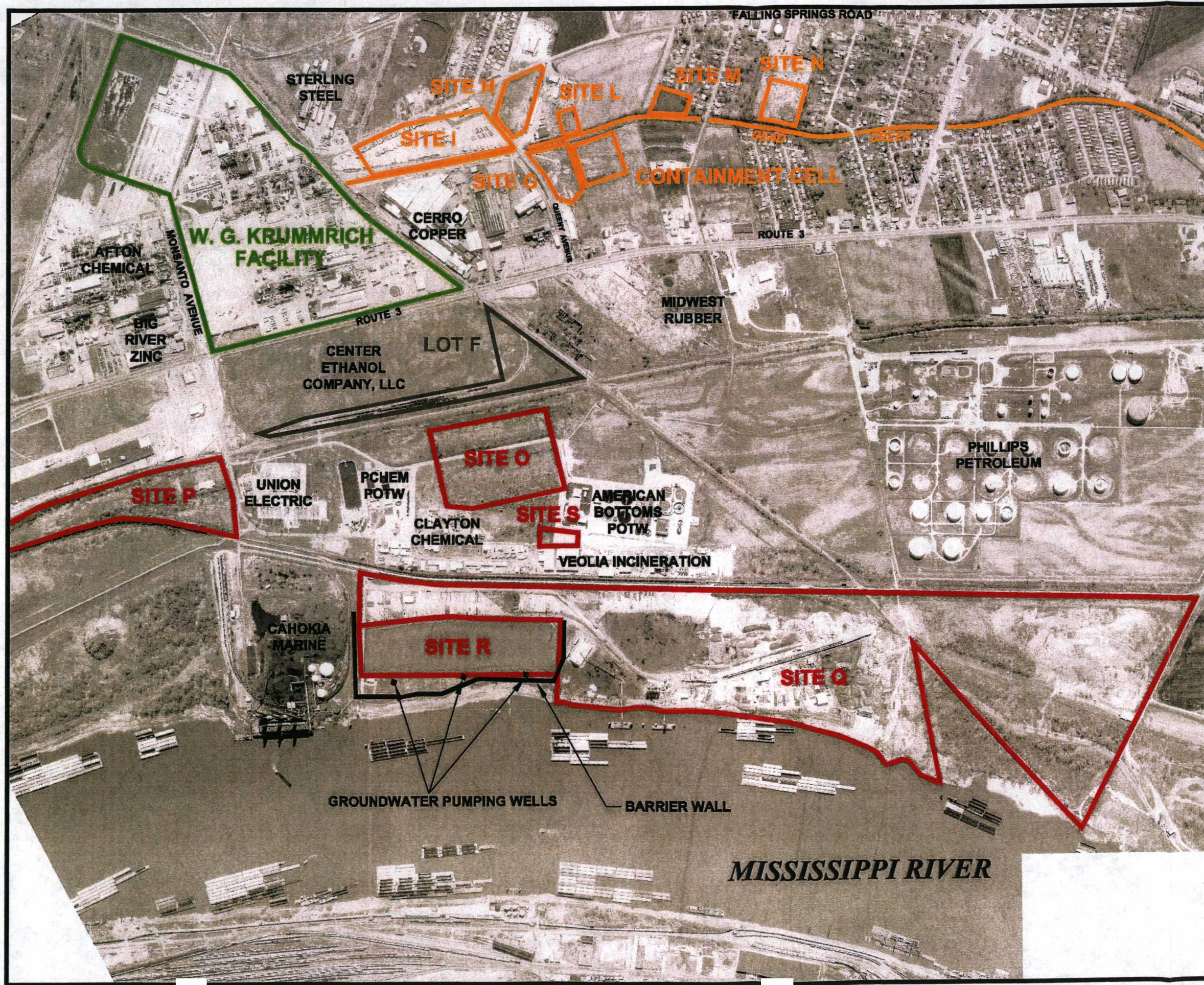
< = Result is non-detect, less than the reporting limit given - indicated as a U qualifier on lab data

A blank space indicates sample not analyzed for select analyte

F(0.2) = Sample was filtered utilizing a 0.2 µm filter in the field

mV = millivolts




J=Estimated value

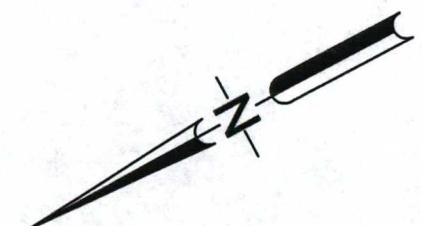


NOTES:

1. Plan adapted from a drawing titled "Site Location Map" provided by URS.

LEGEND:

-  W.G. Krummrich Facility
-  Sauget Area #1
-  Sauget Area #2



Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 07-07-11	Date: 07-07-11	Date: 07-07-11



2Q 2011
Route 3 Drum Site Program
Sauget, Illinois

SITE LOCATION MAP

Project Number
J017210.16

PLATE 1

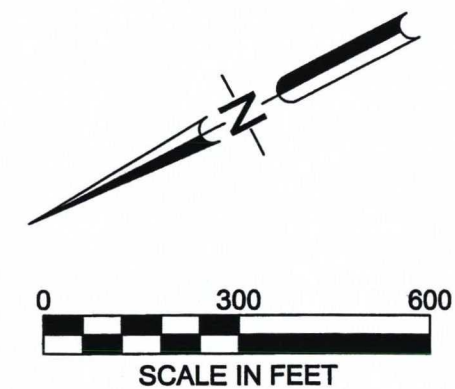
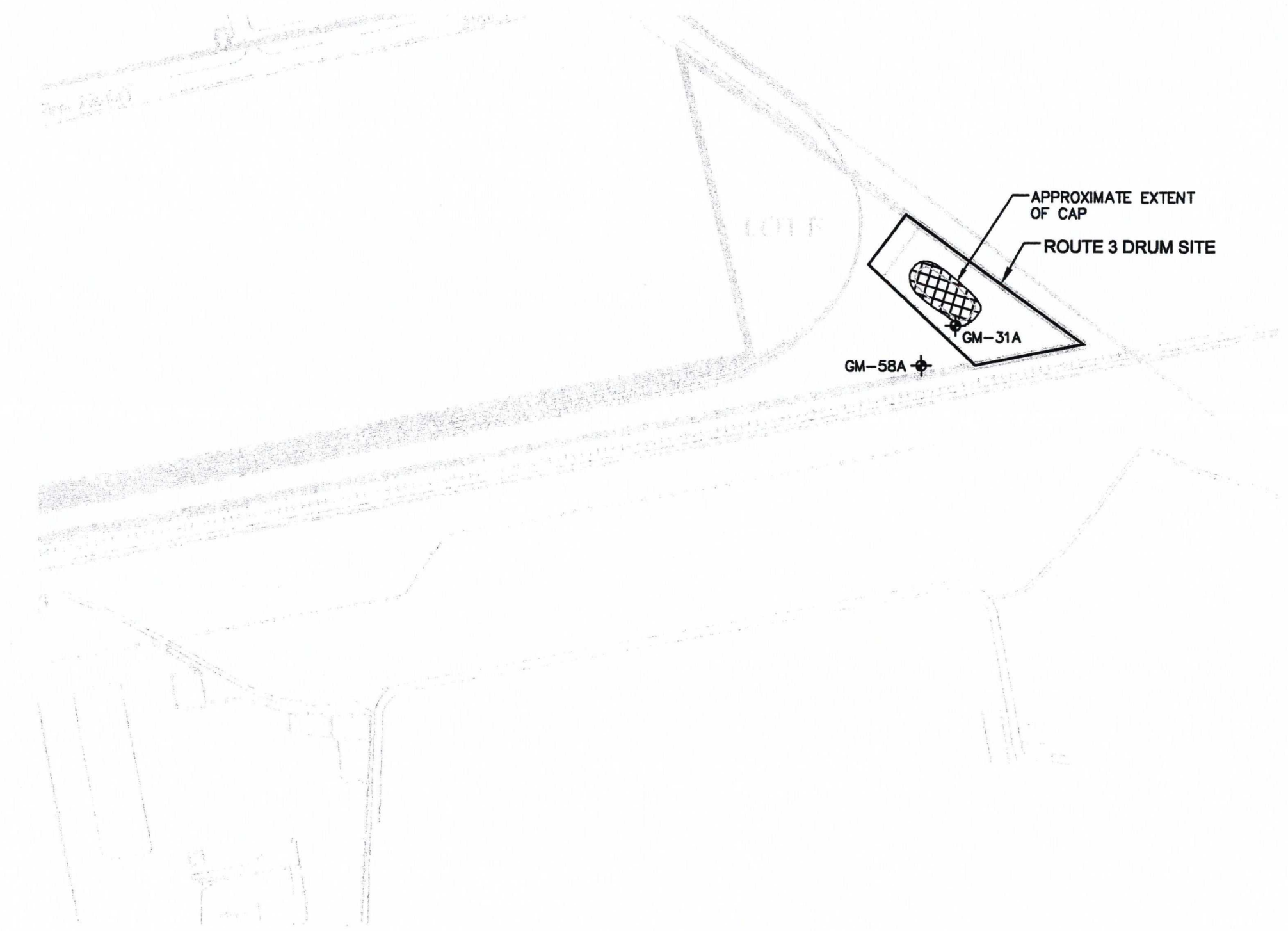
NOTES:


1. Plan adapted from a drawing titled "Monitoring Well Location Map" provided by URS.

LEGEND:



Monitoring Well Location



Drawn By: SLC	Ck'd By: AMS	App'vd By: DTK
Date: 07-07-11	Date: 07-07-11	Date: 07-07-11
 GEOTECHNOLOGY <small>FROM THE GROUND UP</small>		
2Q 2011 Route 3 Drum Site Program Sauget, Illinois		
MONITORING WELL LOCATION MAP		
Project Number J017210.16	PLATE 2	

APPENDIX A

GROUNDWATER PURGING AND SAMPLING FORMS

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

J017210.02

PROJECT NAME: W6K Drum 2A11
 DATE: 5-23-11
 MONITORING WELL ID: 6M-58A

PROJECT NUMBER: J017210-16
 WEATHER: 80° Sunny
 SAMPLE ID: 6M-58A-0511

FIELD PERSONNEL: KCR/VJE

INITIAL DATA

Well Diameter: 2" in
 Measured Well Depth (btoc): 40.88 ft
 Constructed Well Depth (btoc): 41.4 ft
 Depth to Water (btoc): 9.86 ft
 Depth to LNAPL/DNAPL (btoc): - ft
 Depth to Top of Screen (btoc): 21.4 ft
 Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): - ft
 If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet
 Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31.4 ft btoc
 If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are <4 ft,
 Place Pump at: Total Well Depth - 0.5 X Water Column Height + DNAPL Column Height) = - ft btoc
 If Screen Length and/or water column height is <4 ft, Place Pump at: Total Well Depth - 2 ft = - ft btoc
 DNAPL Present NO If Present, Do Not Sample

Volume of Flow Through Cell: 1000 mL
 Minimum Purge Volume =
 (3 x Flow Through Cell Volume) 3000 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 0.0 ppm

PURGE DATA

Pump Type: QED Sample Pro

HAVE THE STABILIZATION PARAMETERS BEEN SATISFIED? All are units unless %

Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	± 0.2	Record Data Only	± 3%	Record Data Only	± 10% or ± 0.2	± 20
					pH	Temp (°C)	Cond. Ms/cm	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	1103	10.06	-	-	-	-	-	-	-	-
1000	1107	10.08	Yellow	None	7.02	19.95	1.18	30.9	1.43	-50
2000	1111	10.08	↓	↓	6.97	18.54	1.19	31.5	0.62	-48
3000	1115	10.10	↓	↓	6.96	17.70	1.19	41.1	0.11	-46
4000	1119	10.10	↓	↓	6.95	17.57	1.19	44.6	0.0	-45
5000	1123	10.10	↓	↓	6.97	17.69	1.19	43.1	0.0	-47

Start Time: 1103
 Stop Time: 1123

Elapsed Time: 20 min
 Average Purge Rate (mL/min): 250

Water Quality Meter ID: Horiba U-52
 Date Calibrated: 5-23-11

SAMPLING DATA

Sample Date: 5-23-11
 Sample Method: Low Flow

Sample Time: 1125
 Sample Flow Rate: 250 mL/min

Analysis: SVEC's metals, MNA
 QA/QC Samples: MS, MSD, EB

VOA Vials, No Headspace ☒ Initials: KCR

COMMENTS: MNA = Alkalinity, CO₂, chloride, Ferrous Iron, methane, Nitrate
Sulfate, DOC, TOC Ferrous Iron (Filtered 0.2 micron) = 0.43

LOW FLOW GROUNDWATER SAMPLING DATA SHEET

J017210.02

PROJECT NAME: WbK Drum 2Q11
 DATE: 5-23-11
 MONITORING WELL ID: 6m-31A

PROJECT NUMBER: J017210.16
 WEATHER: 77° Sunny
 SAMPLE ID: 6m-31A-0511

FIELD PERSONNEL: KCR/VJE

INITIAL DATA

Well Diameter: 2' in
 Measured Well Depth (btoc): 40.4 ft
 Constructed Well Depth (btoc): 41.00 ft
 Depth to Water (btoc): 14.14 ft
 Depth to LNAPL/DNAPL (btoc): - ft
 Depth to Top of Screen (btoc): 21 ft
 Screen Length: 20 ft

Water Column Height (do not include LNAPL or DNAPL): _____ ft
 If Depth to Top of Screen is > Depth to Water AND Screen Length is <4 feet
 Place Pump at: Total Well Depth - 0.5 (Screen Length + DNAPL Column Height) = 31 ft btoc
 If Depth to Top of Screen is < Depth to Water AND Water Column Height and Screen Length are <4 ft,
 Place Pump at: Total Well Depth - 0.5 X Water Column Height + DNAPL Column Height) = - ft btoc
 If Screen Length and/or water column height is <4 ft, Place Pump at: Total Well Depth - 2 ft = - ft btoc
 DNPL Present NO If Present, Do Not Sample

Volume of Flow Through Cell: 1000 mL
 Minimum Purge Volume = (3 x Flow Through Cell Volume) 3000 mL
 Ambient PID/FID Reading: 0.0 ppm
 Wellbore PID/FID Reading: 3.2 ppm

PURGE DATA

Pump Type: QED Sample Pro

HAVE THE STABILIZATION PARAMETERS BEEN SATISFIED? All are units unless %										
		± 0.2	Record Data Only	± 3%	Record Data Only	± 10% or ± 0.2	± 20			
Purge Volume (mL)	Time	Depth to Water (ft)	Color	Odor	pH	Temp (°C)	Cond. Ms/cm	Turbidity (NTUs)	DO (mg/l)	ORP (mv)
0	0950	14.44	-	-	-	-	-	-	-	-
1000	0955	14.41	cloudy / yellow	Slight chemical	6.99	16.22	1.12	222	0.83	86
2000	0959	14.40	↓	↓	6.99	15.99	1.13	184	0.06	82
3000	1003	14.40	↓	↓	7.01	16.11	1.12	166	0.0	80
4000	1007	14.41	↓	↓	7.03	16.11	1.12	163	0.0	79
5000	1011	14.41	↓	↓	7.05	16.18	1.12	162	0.0	78

Start Time: 0950 Elapsed Time: 21 min
 Stop Time: 1011 Average Purge Rate (mL/min): 238.1
 Water Quality Meter ID: HV66 4-52
 Date Calibrated: 5-23-11

SAMPLING DATA

Sample Date: 5-23-11 Sample Time: 1015 Analysis: metals, MNA's, SVOC's
 Sample Method: low flow Sample Flow Rate: 238.1 mL/min QA/QC Samples: AD

VOA Vials, No Headspace ☒ Initials: KCR

COMMENTS: MNA = Alkalinity, Coe, Chloride, Ferrous Iron, methane, Nitrate, Sulfate, DOC, TOC Ferrous Iron (Filtered 0.2 micron) = 0.41

APPENDIX B

CHAIN-OF-CUSTODY

Serial Number 039897

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE W6K Drum 2Q11		PROJECT NO. J017210.16	PROJECT LOCATION (STATE) FL	MATRIX TYPE	REQUIRED ANALYSIS										PAGE 1	OF 1												
TAL (LAB) PROJECT MANAGER GM Rinaldi		P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NOISE	SVOC	82700	Total Perm	66105	AKG / CO2	310.1	Chloride	325.2	Sulfate	375.7	RSK 125	353.2	TOL	415.1	Diss Perm	DOC	415.1	STANDARD REPORT DELIVERY	DATE DUE	EXPEDITED REPORT DELIVERY (SURCHARGE)	DATE DUE	NUMBER OF COOLERS SUBMITTED PER SHIPMENT	
CLIENT (SITE) PM GM Rinaldi		CLIENT PHONE 314-674-3312	CLIENT FAX 314-674-8508		None	AKG	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE
CLIENT NAME Solutia, Inc		CLIENT E-MAIL jmerma@solucia.com			None	AKG	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	
CLIENT ADDRESS 575 Maryville Center Dr, St. Louis, MO		COMPANY CONTRACTING THIS WORK (if applicable)			None	AKG	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	PRE	
SAMPLE		SAMPLE IDENTIFICATION		NUMBER OF CONTAINERS SUBMITTED																				REMARKS				
DATE	TIME																											
5-23-11	1015	6M-31A-0511		6	A			2	1	1	1	3	2	1														
	1015	6M-31A-0511 - AD		6	A			2																			AD	
	1015	6M-31A-F(2)-0511		6	A													1	1								Filled	
	1125	6M-58A-0511		6	A			2	1	1	1	3	2	1														
	1125	6M-58A-F(2)-0511		6	A													1	1								Filled	
	1125	6M-58A-0511 - MS		6	A			2																			MS	
	1125	6M-58A-0511 - MSD		6	A			2																			MSD	
	1125	6M-58A-0511 - EB		6	A			2																			EB	
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME													
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME													
RECEIVED FOR LABORATORY BY: (SIGNATURE)		DATE	TIME	CUSTODY INTACT YES NO	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS																					
Butch A Daugherty		5/24/11	0941	YES NO		680- 68658	Temp 1.0°C/0.9°C																					

Page 26 of 28

TAI 8240-6R0 (1008)



APPENDIX C

QUALITY ASSURANCE REPORT

**SECOND QUARTER 2011
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS**

Prepared for:

SOLUTIA INC.
St. Louis, Missouri

Prepared by:

GEOTECHNOLOGY, INC.
St. Louis, Missouri

Geotechnology, Inc. Report No. J017210.16

August 26, 2011

SECOND QUARTER 2011
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION	1
2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES	3
3.0 LABORATORY METHOD AND EQUIPMENT BLANK SAMPLES	3
4.0 SURROGATE SPIKE RECOVERIES	3
5.0 LABORATORY CONTROL SAMPLE RECOVERIES	4
6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES.....	4
7.0 FIELD DUPLICATE RESULTS	4
8.0 INTERNAL STANDARD RESPONSES	5
9.0 RESULTS REPORTED FROM DILUTIONS	5
10.0 MASS SPECTROMETER TUNING.....	5
11.0 CALIBRATION.....	5
12.0 COMPOUND IDENTIFICATION	6
13.0 OTHER PROBLEMS/DOCUMENTATION	6

SECOND QUARTER 2011
ILLINOIS ROUTE 3 DRUM SITE GROUNDWATER SAMPLING
QUALITY ASSURANCE REPORT
SOLUTIA INC.
W.G. KRUMMRICH FACILITY
SAUGET, ILLINOIS

1.0 INTRODUCTION

This Quality Assurance Report presents the findings of a review of analytical data for groundwater samples collected in May of 2011 at the Solutia W.G. Krummrich plant as part of the 2nd Quarter 2011 Illinois Route 3 Drum Site Groundwater Sampling. The samples were collected by Geotechnology, Inc. (Geotechnology) personnel and analyzed by TestAmerica Laboratories located in Savannah, Georgia using USEPA methodologies. Groundwater samples were analyzed for semi-volatile organic compounds (SVOCs) and monitored natural attenuation (MNA) parameters.

Geotechnology subcontracted with the M.J.W. Corporation to conduct third party Level III data validation. One hundred percent of the data was subjected to a data quality review (Level III validation.) M.J.W. Corporation selected four random groundwater samples for Level IV data validation (GM-31A-0511, GM-31A-F(0.2)-0511, GM-58A-0511 and GM-58A-F(0.2)-0511). The Level III and IV reviews were performed in order to confirm that the analytical data provided by TestAmerica were acceptable in quality for their intended use.

A total of 6 samples (two investigative groundwater samples, one field duplicate, one matrix spike and matrix spike duplicate (MS/MSD) pair, and one equipment blank) were analyzed by TestAmerica. These samples were analyzed as part of Sample Delivery Group (SDG) KOM12 utilizing the following USEPA SW-846 Methods:

- Method 8270 for semi-volatile organic compounds
- Method RSK-175 for dissolved gases (ethane, ethylene and methane)
- Method 6010B for total and dissolved iron and manganese
- Method 325.2 for chloride
- Method 353.2 for nitrogen, nitrate
- Method 375.4 for sulfate
- Method 415.1 for total and dissolved organic carbon
- Method 310.1 for alkalinity and carbon dioxide

Samples were reviewed following procedures outlined in the USEPA National Functional Guidelines for Superfund Organic Methods Data Review (USEPA 2008) and the USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, October 2004.

The above guidelines provided the criteria to review the data. Additional quantitative criteria are given in the analytical methods. Data was qualified based on the data quality review. Qualifiers assigned indicate data that did not meet acceptance criteria and for which corrective actions were not successful or not performed. The various qualifiers are explained in Tables 1 and 2 below:

Table 1 – Laboratory Data Qualifiers

Lab Qualifier	Definition
U	Indicates the analyte was analyzed for but not detected.
F	MS or MSD exceeds the control limits.
H	Sample was prepped or analyzed beyond the specified holding time.

Table 2 – Geotechnology (MJW Corporation) Data Qualifiers

MJW Corp. Qualifier	Definition
U	The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

Based on the criteria outlined, it is recommended that the results reported for these analyses are accepted for their intended use. Acceptable levels of accuracy, precision, and representativeness (based on MS/MSD, LCS, surrogate compounds and field duplicate results) were achieved for this data set, except where noted in this report. In addition, analytical completeness, defined to be the percentage of analytical results which are judged to be valid, including estimated detect/nondetect (J/UJ) values was 100.0%.

The data review included evaluation of the following criteria:

Organics

- Receipt condition and sample holding times
- Laboratory method blanks, and field equipment blank samples
- Surrogate spike recoveries
- Laboratory control sample (LCS) recoveries
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) sample recoveries and relative percent difference (RPD) values
- Field duplicate results
- Results reported from dilutions
- Internal standard responses
- Mass spectrometer tuning
- Calibration
- Compound identification
- Other problems/documentation

Inorganics

- Receipt condition and sample holding times
- Laboratory method blank
- LCS recoveries
- MS/MSD sample recoveries and matrix duplicate RPD values
- Field duplicate and laboratory duplicate results
- Results report from dilutions

2.0 RECEIPT CONDITION AND SAMPLE HOLDING TIMES

Sample holding time requirements for the analyses performed are presented in the methods and/or in the data review guidelines. Review of the sample collection, extraction and analysis dates involved comparing the chain-of-custody and the laboratory data summary forms for accuracy, consistency, and holding time compliance.

The cooler receipt form indicated that both of the coolers were received by the laboratory at a temperature below the temperature requirements. A one liter amber jar was logged as broken; however, the remaining samples received were in good condition. Therefore, no qualification of data was required.

3.0 LABORATORY METHOD AND EQUIPMENT BLANK SAMPLES

Laboratory method blank samples evaluate the existence and magnitude of contamination problems resulting from laboratory activities. All laboratory method blank samples were analyzed at the method prescribed frequencies. No analytes were detected in the method blank; therefore, no qualification of data was required.

Equipment blank samples are used to assess the effectiveness of equipment decontamination procedures. No analytes were detected in the equipment blank sample.

4.0 SURROGATE SPIKE RECOVERIES

Surrogate compounds are used to evaluate overall laboratory performance for sample preparation efficiency on a per sample basis. All samples analyzed for SVOCs were spiked with surrogate compounds during sample preparation. USEPA National Functional Guidelines for

Superfund Organic Methods Data Review state how data is qualified, if surrogate spike recoveries do not meet evaluation criteria. Surrogate recoveries were within evaluation criteria. No qualifications of data were required due to surrogate recoveries.

5.0 LABORATORY CONTROL SAMPLE RECOVERIES

Laboratory control samples (LCS) are analyzed with each analytical batch to assess the accuracy of the analytical process.

Method 8270C (GC/MS Semi-volatiles): The matrix spike/matrix spike duplicate (MS/MSD) recoveries for batch 203986 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method 325.2 (General Chemistry-Chloride): The matrix spike/matrix spike duplicate (MS/MSD) recoveries for batch 204782 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

6.0 MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) SAMPLES

MS/MSD samples are analyzed to assess the accuracy and precision of the analytical process on an analytical sample in a particular matrix. MS/MSD samples were required to be collected at a frequency of one per 20 investigative samples in accordance with the work plan (one per 20 investigative samples or 5%). Geotechnology submitted one MS/MSD sample set for two investigative samples, meeting the work plan frequency requirement.

No qualifications were made to the data if the MS/MSD percent recoveries were zero due to dilutions or if the Relative Percent Difference (RPD) was the only factor outside of criteria. Also, USEPA National Functional Guidelines for Superfund Organic Methods Data Review (2008) states that organic data does not need qualification based on MS/MSD criteria alone. Therefore, if recoveries were outside evaluation criteria due to matrix interference or abundance of analytes, no qualifiers were assigned unless these analytes had other quality control criteria outside evaluation criteria.

Data does not require qualification based on MS/MSD data alone; therefore no qualification of semi-volatile data was performed.

Yes, sample GM-58A-0511 was spiked and analyzed for Semi-VOAs, ICP Metals, Chloride, Nitrate, Sulfate, TOC, and DOC.

Method 8270C (GC/MS Semi-volatiles): MS/MSD Batch 680-203986 (Analysis Batch: 680-205183) had results out of control limits for 1,1-Biphenyl, Nitrobenzene, and 2,4,6-Trichlorophenol.

USEPA National Functional Guidelines for Superfund Organic Methods Data Review indicates that organic data does not require qualification based on MS/MSD data alone and LCS recoveries were within evaluation criteria; therefore, no qualification of semi-volatile data was required.

Method 325.2 (General Chemistry-Chloride): MS/MSD Batch 680-204782 (Analysis Batch: 680-204782) had out of control limits for Chloride but the sample result was 4x greater than the spike added so no qualification was necessary.

7.0 FIELD DUPLICATE RESULTS

Field duplicate results are used to evaluate precision of the entire data collection activity, including sampling, analysis and site heterogeneity. When results for both duplicate and sample values are greater than five times the practical quantitation limit (PQL), satisfactory precision is indicated by an RPD less than or equal to 25 percent for aqueous samples. Where one or both of the

results of a field duplicate pair are reported at less than five times the PQL, satisfactory precision is indicated if the field duplicate results agree within 2 times the quantitation limit. Field duplicate results that do not meet these criteria may indicate unsatisfactory precision of the results.

One field duplicate sample was collected for the two investigative samples. This satisfies the requirement in the work plan (one per 10 investigative samples or 10 percent). Field duplicate results were within evaluation criteria. No qualifications of data were required.

8.0 INTERNAL STANDARD RESPONSES

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during each analytical run. For the SVOCs, the IS areas must be within -50 to +10 percent of the preceding calibration verification (CV) IS value. Also, the IS retention times must be within 30 seconds of the preceding IS CV retention time.

The internal standards area responses for SVOCs were verified for the data reviews. IS responses met the criteria as described above. No qualifications of data were required.

9.0 RESULTS REPORTED FROM DILUTIONS

Samples were not diluted; therefore, qualifications of data were not required.

10. MASS SPECTROMETER TUNING

Instrument performance was determined to be satisfactory. No qualifications of data were required.

11.0 CALIBRATION

Percent Relative Standard Deviation (%RSD) is used to indicate the stability of a specific compound response factor over increasing concentration. Percent D (%D) is a measure of the instrument's daily performance. Percent RSD must be <30% and Percent D must be <25%.

No samples were qualified for percent D or percent RSD; therefore no qualifications of data were required.

12.0 COMPOUND IDENTIFICATION

Compound identification was determined to be satisfactory. No qualifications of data were required.

13.0 OTHER PROBLEMS/DOCUMENTATION

The analytical testing results for Total Organic Carbon (TOC) and Dissolved Organic Carbon (DOC) were estimated for samples GM-31A-0511, GM-31A-0511-F(0.2) and GM-58A-0511 because the dissolved result was greater than the total result by at least 10%. Sample GM-58A-0511-F(0.2) has been estimated "J" for TOC/DOC due to out of control limits for matrix spike. The sample results qualified as estimated by MJW Corporation are summarized in the table below.

Sample ID	Parameter	Analyte	Qualification
GM-31A-0511	Inorganics	TOC	J
GM-31A-0511-F(0.2)	Inorganics	DOC	J
GM-58A-0511	Inorganics	TOC	J
GM-58-0511-F(0.2)	Inorganics	DOC	J

APPENDIX D

**GROUNDWATER ANALYTICAL RESULTS
(WITH DATA REVIEW SHEETS)**

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404
Tel: (912)354-7858

TestAmerica Job ID: 680-68658-1
TestAmerica Sample Delivery Group: KOM012
Client Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

For:
Solutia Inc.
575 Maryville Centre Dr.
Saint Louis, Missouri 63141

Attn: Mr. Jerry Rinaldi

Lidya Gulizia

Authorized for release by:
06/22/2011 05:35:50 PM

Lidya Gulizia
Project Manager II
lidya.gulizia@testamericainc.com

cc: Duane Kreuger

LINKS

Review your project
results through

TotalAccess

Have a Question?

**Ask
The
Expert**

Visit us at:

www.testamericainc.com

Results relate only to the items tested and the sample(s) as received by the laboratory. The test results in this report meet all 2003 NELAC requirements for accredited parameters, exceptions are noted in this report. Pursuant to NELAC, this report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

7/18/11
AC

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Sample Summary	4
Method Summary	5
Definitions	6
Client Sample Results	7
Surrogate Summary	13
QC Sample Results	14
QC Association	21
Chronicle	24
Chain of Custody	26
Receipt Checklists	27
Certification Summary	28

7/18/14
Abe

Case Narrative

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Job ID: 680-68658-1

Laboratory: TestAmerica Savannah

Narrative

Job Narrative 680-68658-1 / SDG KOM012

Receipt

All samples were received in good condition within temperature requirements.

GC/MS Semi VOA

Method(s) 8270C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 203986 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

GC VOA

No analytical or quality issues were noted.

Metals

No analytical or quality issues were noted.

General Chemistry

Method(s) 325.2, SM 4500 Cl- E: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 204782 were outside control limits. The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Comments

No additional comments.

7/18/11
AC

Sample Summary

Client: Solutia Inc.

TestAmerica Job ID: 680-68658-1

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
680-68658-1	GM-31A-0511	Water	05/23/11 10:15	05/24/11 09:41
680-68658-2	GM-31A-0511-AD	Water	05/23/11 10:15	05/24/11 09:41
680-68658-3	GM-31A-F(2)-0511	Water	05/23/11 10:15	05/24/11 09:41
680-68658-4	GM-58A-0511	Water	05/23/11 11:25	05/24/11 09:41
680-68658-5	GM-58A-F(2)-0511	Water	05/23/11 11:25	05/24/11 09:41
680-68658-6	GM-58A-0511-EB	Water	05/23/11 11:25	05/24/11 09:41

7/18/14
AC

Method Summary

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Method	Method Description	Protocol	Laboratory
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL SAV
RSK-175	Dissolved Gases (GC)	RSK	TAL SAV
6010B	Metals (ICP)	SW846	TAL SAV
310.1	Alkalinity	MCAWW	TAL SAV
325.2	Chloride	MCAWW	TAL SAV
353.2	Nitrogen, Nitrate-Nitrite	MCAWW	TAL SAV
375.4	Sulfate	MCAWW	TAL SAV
415.1	TOC	MCAWW	TAL SAV
415.1	DOC	MCAWW	TAL SAV

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

RSK = Sample Prep And Calculations For Dissolved Gas Analysis, In Water Samples Using A GC Headspace Equilibration Technique, RSKSOP-175, Rev. 0, 8/11/94, USEPA Research Lab

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

7/18/11
AC

Definitions/Glossary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
F	MS or MSD exceeds the control limits
U	Indicates the analyte was analyzed for but not detected.

GC VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis.
EPA	United States Environmental Protection Agency
ND	Not Detected above the reporting level.
MDL	Method Detection Limit
RL	Reporting Limit
RE, RE1 (etc.)	Indicates a Re-extraction or Reanalysis of the sample.
%R	Percent Recovery
RPD	Relative Percent Difference, a measure of the relative difference between two points.

7/18/14
AC

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Client Sample ID: GM-31A-0511

Lab Sample ID: 680-68658-1

Date Collected: 05/23/11 10:15

Matrix: Water

Date Received: 05/24/11 09:41

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
2,4-Dichlorophenol	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
Nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
Pentachlorophenol	50	U	50		ug/L		05/25/11 14:53	06/06/11 14:36	1
2,4,6-Trichlorophenol	29		10		ug/L		05/25/11 14:53	06/06/11 14:36	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
2-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
3-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
4-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1
2-chloronitrobenzene /	20	U	20		ug/L		05/25/11 14:53	06/06/11 14:36	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 14:36	1

Surrogate	% Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	61		38 - 130	05/25/11 14:53	06/06/11 14:36	1
2-Fluorophenol	50		25 - 130	05/25/11 14:53	06/06/11 14:36	1
Nitrobenzene-d5	61		39 - 130	05/25/11 14:53	06/06/11 14:36	1
Phenol-d5	57		25 - 130	05/25/11 14:53	06/06/11 14:36	1
Terphenyl-d14	38		10 - 143	05/25/11 14:53	06/06/11 14:36	1
2,4,6-Tribromophenol	68		31 - 141	05/25/11 14:53	06/06/11 14:36	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			05/26/11 15:22	1
Ethylene	1.0	U	1.0		ug/L			05/26/11 15:22	1
Methane	1.9		0.58		ug/L			05/26/11 15:22	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	30		0.050		mg/L		05/26/11 10:31	05/26/11 22:36	1
Manganese	0.96		0.010		mg/L		05/26/11 10:31	05/26/11 22:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	28		1.0		mg/L			06/03/11 12:30	1
Nitrate as N	3.4		0.25		mg/L			05/24/11 16:42	5
Sulfate	130		25		mg/L			06/07/11 17:53	5
Total Organic Carbon	2.1	ND	1.0		mg/L			06/01/11 15:36	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	380		5.0		mg/L			05/24/11 17:48	1
Carbon Dioxide, Free	24		5.0		mg/L			05/24/11 17:48	1

7/18/14
AG

Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Client Sample ID: GM-31A-0511-AD

Lab Sample ID: 680-68658-2

Date Collected: 05/23/11 10:15

Matrix: Water

Date Received: 05/24/11 09:41

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
2,4-Dichlorophenol	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
Nitrobenzene	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
Pentachlorophenol	50	U	50		ug/L		05/25/11 14:53	06/06/11 15:06	1
2,4,6-Trichlorophenol	33		9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
1-Chloro-3-nitrobenzene	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
2-Nitrobiphenyl	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
3-Nitrobiphenyl	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
3,4-Dichloronitrobenzene	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
4-Nitrobiphenyl	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
2-chloronitrobenzene /	20		20		ug/L		05/25/11 14:53	06/06/11 15:06	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	9.9	U	9.9		ug/L		05/25/11 14:53	06/06/11 15:06	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	63		38 - 130				05/25/11 14:53	06/06/11 15:06	1
2-Fluorophenol	53		25 - 130				05/25/11 14:53	06/06/11 15:06	1
Nitrobenzene-d5	63		39 - 130				05/25/11 14:53	06/06/11 15:06	1
Phenol-d5	56		25 - 130				05/25/11 14:53	06/06/11 15:06	1
Terphenyl-d14	32		10 - 143				05/25/11 14:53	06/06/11 15:06	1
2,4,6-Tribromophenol	68		31 - 141				05/25/11 14:53	06/06/11 15:06	1

TestAmerica Savannah

7/18/11
AEC

Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Client Sample ID: GM-31A-F(.2)-0511

Lab Sample ID: 680-68658-3

Date Collected: 05/23/11 10:15

Matrix: Water

Date Received: 05/24/11 09:41

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	0.050	U	0.050		mg/L		05/26/11 10:31	05/26/11 22:41	1
Manganese, Dissolved	0.71		0.010		mg/L		05/26/11 10:31	05/26/11 22:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.9	~J	1.0		mg/L			06/02/11 08:47	1

7/18/11
Abe

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Client Sample ID: GM-58A-0511

Lab Sample ID: 680-68658-4

Date Collected: 05/23/11 11:25

Matrix: Water

Date Received: 05/24/11 09:41

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
2,4-Dichlorophenol	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
Nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
Pentachlorophenol	50	U	50		ug/L		05/25/11 14:53	06/06/11 15:35	1
2,4,6-Trichlorophenol	17		10		ug/L		05/25/11 14:53	06/06/11 15:35	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
2-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
3-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
4-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
2-chloronitrobenzene / 4-chloronitrobenzene	47		20		ug/L		05/25/11 14:53	06/06/11 15:35	1
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 15:35	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	42		38 - 130				05/25/11 14:53	06/06/11 15:35	1
2-Fluorophenol	40		25 - 130				05/25/11 14:53	06/06/11 15:35	1
Nitrobenzene-d5	45		39 - 130				05/25/11 14:53	06/06/11 15:35	1
Phenol-d5	43		25 - 130				05/25/11 14:53	06/06/11 15:35	1
Terphenyl-d14	45		10 - 143				05/25/11 14:53	06/06/11 15:35	1
2,4,6-Tribromophenol	59		31 - 141				05/25/11 14:53	06/06/11 15:35	1

Method: RSK-175 - Dissolved Gases (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			05/26/11 15:35	1
Ethylene	1.0	U	1.0		ug/L			05/26/11 15:35	1
Methane	1.7		0.58		ug/L			05/26/11 15:35	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	20		0.050		mg/L		05/26/11 10:31	05/26/11 23:17	1
Manganese	1.6		0.010		mg/L		05/26/11 10:31	05/26/11 23:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	46		1.0		mg/L			06/03/11 12:30	1
Nitrate as N	0.15		0.050		mg/L			05/24/11 16:17	1
Sulfate	92		25		mg/L			06/07/11 17:53	5
Total Organic Carbon	3.6	"J"	1.0		mg/L			06/01/11 15:51	1
Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	490		5.0		mg/L			05/24/11 17:58	1
Carbon Dioxide, Free	47		5.0		mg/L			05/24/11 17:58	1

7/15/14
AC

Client Sample Results

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Client Sample ID: GM-58A-F(.2)-0511

Lab Sample ID: 680-68658-5

Date Collected: 05/23/11 11:25

Matrix: Water

Date Received: 05/24/11 09:41

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron, Dissolved	2.5		0.050		mg/L		05/26/11 10:31	05/26/11 23:22	1
Manganese, Dissolved	1.5		0.010		mg/L		05/26/11 10:31	05/26/11 23:22	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.0	5	1.0		mg/L			06/02/11 08:47	1

7/18/14
AC

Client Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Client Sample ID: GM-58A-0511-EB

Lab Sample ID: 680-68658-6

Date Collected: 05/23/11 11:25

Matrix: Water

Date Received: 05/24/11 09:41

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
2,4-Dichlorophenol	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
Nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
Pentachlorophenol	51	U	51		ug/L		05/25/11 14:53	06/06/11 16:05	1
2,4,6-Trichlorophenol	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
2-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
3-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
4-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
2-chloronitrobenzene /	21	U	21		ug/L		05/25/11 14:53	06/06/11 16:05	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 16:05	1
Surrogate	% Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	76		38 - 130				05/25/11 14:53	06/06/11 16:05	1
2-Fluorophenol	65		25 - 130				05/25/11 14:53	06/06/11 16:05	1
Nitrobenzene-d5	73		39 - 130				05/25/11 14:53	06/06/11 16:05	1
Phenol-d5	67		25 - 130				05/25/11 14:53	06/06/11 16:05	1
Terphenyl-d14	83		10 - 143				05/25/11 14:53	06/06/11 16:05	1
2,4,6-Tribromophenol	83		31 - 141				05/25/11 14:53	06/06/11 16:05	1

7/18/11
AC

Surrogate Summary

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	FBP	2FP	NBZ	PHL	TPH	TBP
		(38-130)	(25-130)	(39-130)	(25-130)	(10-143)	(31-141)
680-68658-1	GM-31A-0511	61	50	61	57	38	68
680-68658-2	GM-31A-0511-AD	63	53	63	56	32	68
680-68658-4	GM-58A-0511	42	40	45	43	45	59
680-68658-4 MS	GM-58A-0511	45	46	54	51	56	57
680-68658-4 MSD	GM-58A-0511	52	57	66	63	65	64
680-68658-6	GM-58A-0511-EB	76	65	73	67	83	83
LCS 680-203986/15-A	Lab Control Sample	56	61	68	65	80	61
MB 680-203986/14-A	Method Blank	89	72	86	77	101	92

Surrogate Legend

FBP = 2-Fluorobiphenyl

2FP = 2-Fluorophenol

NBZ = Nitrobenzene-d5

PHL = Phenol-d5

TPH = Terphenyl-d14

TBP = 2,4,6-Tribromophenol

7/18/14
AC

QC Sample Results

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 680-203986/14-A

Matrix: Water

Analysis Batch: 205083

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 203986

Analyte	Result	MB MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
2,4-Dichlorophenol	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
Nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
Pentachlorophenol	50	U	50		ug/L		05/25/11 14:53	06/06/11 13:36	1
2,4,6-Trichlorophenol	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
1-Chloro-3-nitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
2-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
3-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
3,4-Dichloronitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
4-Nitrobiphenyl	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1
2-chloronitrobenzene /	20	U	20		ug/L		05/25/11 14:53	06/06/11 13:36	1
4-chloronitrobenzene									
1-chloro-2,4-dinitrobenzene	10	U	10		ug/L		05/25/11 14:53	06/06/11 13:36	1

Surrogate	% Recovery	MB MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl	89		38 - 130	05/25/11 14:53	06/06/11 13:36	1
2-Fluorophenol	72		25 - 130	05/25/11 14:53	06/06/11 13:36	1
Nitrobenzene-d5	86		39 - 130	05/25/11 14:53	06/06/11 13:36	1
Phenol-d5	77		25 - 130	05/25/11 14:53	06/06/11 13:36	1
Terphenyl-d14	101		10 - 143	05/25/11 14:53	06/06/11 13:36	1
2,4,6-Tribromophenol	92		31 - 141	05/25/11 14:53	06/06/11 13:36	1

Lab Sample ID: LCS 680-203986/15-A

Matrix: Water

Analysis Batch: 205083

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 203986

Analyte	Spike Added	LCS LCS Result Qualifier	Unit	D	% Rec	% Rec. Limits
1,1'-Biphenyl	100	60.3	ug/L		60	54 - 130
2,4-Dichlorophenol	100	74.4	ug/L		74	54 - 130
Nitrobenzene	100	68.8	ug/L		69	56 - 130
Pentachlorophenol	100	77.8	ug/L		78	42 - 138
2,4,6-Trichlorophenol	100	64.1	ug/L		64	57 - 130
1-Chloro-3-nitrobenzene	100	76.5	ug/L		77	10 - 130
2-Nitrobiphenyl	100	79.8	ug/L		80	10 - 130
3-Nitrobiphenyl	100	84.7	ug/L		85	10 - 130
3,4-Dichloronitrobenzene	100	81.3	ug/L		81	10 - 130
4-Nitrobiphenyl	100	84.5	ug/L		84	10 - 130
2-chloronitrobenzene /	200	157	ug/L		79	10 - 130
4-chloronitrobenzene						
1-chloro-2,4-dinitrobenzene	100	94.1	ug/L		94	10 - 130

Surrogate	% Recovery	LCS LCS Qualifier	Limits
2-Fluorobiphenyl	56		38 - 130
2-Fluorophenol	61		25 - 130
Nitrobenzene-d5	68		39 - 130
Phenol-d5	65		25 - 130
Terphenyl-d14	80		10 - 143
2,4,6-Tribromophenol	61		31 - 141

TestAmerica Savannah

7/10/14
AL

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 680-68658-4 MS

Matrix: Water

Analysis Batch: 205183

Client Sample ID: GM-58A-0511

Prep Type: Total/NA

Prep Batch: 203986

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
1,1'-Biphenyl	10	U	99.9	49.3	F	ug/L		49	54 - 130	
2,4-Dichlorophenol	10	U	99.9	65.3		ug/L		64	54 - 130	
Nitrobenzene	10	U	99.9	57.9	F	ug/L		55	56 - 130	
Pentachlorophenol	50	U	99.9	91.5		ug/L		81	42 - 138	
2,4,6-Trichlorophenol	17		99.9	73.4	F	ug/L		56	57 - 130	
1-Chloro-3-nitrobenzene	10	U	99.9	63.8		ug/L		64	10 - 130	
2-Nitrobiphenyl	10	U	99.9	81.6		ug/L		74	10 - 130	
3-Nitrobiphenyl	10	U	99.9	79.2		ug/L		79	10 - 130	
3,4-Dichloronitrobenzene	10	U	99.9	67.7		ug/L		68	10 - 130	
4-Nitrobiphenyl	10	U	99.9	78.0		ug/L		78	10 - 130	
2-chloronitrobenzene /	47		200	181		ug/L		67	10 - 130	
4-chloronitrobenzene										
1-chloro-2,4-dinitrobenzene	10	U	99.9	84.0		ug/L		84	10 - 130	

Surrogate	MS	MS	Limits
% Recovery	Qualifier		
2-Fluorobiphenyl	45		38 - 130
2-Fluorophenol	46		25 - 130
Nitrobenzene-d5	54		39 - 130
Phenol-d5	51		25 - 130
Terphenyl-d14	56		10 - 143
2,4,6-Tribromophenol	57		31 - 141

Lab Sample ID: 680-68658-4 MSD

Matrix: Water

Analysis Batch: 205183

Client Sample ID: GM-58A-0511

Prep Type: Total/NA

Prep Batch: 203986

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.	RPD	RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
1,1'-Biphenyl	10	U	97.8	51.8	F	ug/L		53	54 - 130	5	50
2,4-Dichlorophenol	10	U	97.8	72.5		ug/L		73	54 - 130	10	50
Nitrobenzene	10	U	97.8	73.2		ug/L		72	56 - 130	23	50
Pentachlorophenol	50	U	97.8	89.6		ug/L		81	42 - 138	2	50
2,4,6-Trichlorophenol	17		97.8	77.8		ug/L		62	57 - 130	6	50
1-Chloro-3-nitrobenzene	10	U	97.8	73.9		ug/L		76	10 - 130	15	50
2-Nitrobiphenyl	10	U	97.8	85.1		ug/L		79	10 - 130	4	50
3-Nitrobiphenyl	10	U	97.8	79.7		ug/L		81	10 - 130	1	50
3,4-Dichloronitrobenzene	10	U	97.8	76.8		ug/L		78	10 - 130	13	50
4-Nitrobiphenyl	10	U	97.8	77.9		ug/L		80	10 - 130	0	50
2-chloronitrobenzene /	47		196	215		ug/L		86	10 - 130	17	50
4-chloronitrobenzene											
1-chloro-2,4-dinitrobenzene	10	U	97.8	94.6		ug/L		97	10 - 130	12	50

Surrogate	MSD	MSD	Limits
% Recovery	Qualifier		
2-Fluorobiphenyl	52		38 - 130
2-Fluorophenol	57		25 - 130
Nitrobenzene-d5	66		39 - 130
Phenol-d5	63		25 - 130
Terphenyl-d14	65		10 - 143
2,4,6-Tribromophenol	64		31 - 141

TestAmerica Savannah

7/14/14
AC

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Method: RSK-175 - Dissolved Gases (GC)

Lab Sample ID: MB 680-204167/8
Matrix: Water
Analysis Batch: 204167

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethane	1.1	U	1.1		ug/L			05/26/11 11:28	1
Ethylene	1.0	U	1.0		ug/L			05/26/11 11:28	1
Methane	0.58	U	0.58		ug/L			05/26/11 11:28	1

Lab Sample ID: LCS 680-204167/6
Matrix: Water
Analysis Batch: 204167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Ethane	282	320		ug/L		113	75 - 125
Ethylene	271	323		ug/L		119	75 - 125
Methane	153	177		ug/L		116	75 - 125

Lab Sample ID: LCSD 680-204167/7
Matrix: Water
Analysis Batch: 204167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Ethane	282	320		ug/L		113	75 - 125	0	30
Ethylene	271	316		ug/L		117	75 - 125	2	30
Methane	153	175		ug/L		115	75 - 125	1	30

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 680-204145/1-A
Matrix: Water
Analysis Batch: 204264

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 204145

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.050	U	0.050		mg/L		05/26/11 10:31	05/26/11 22:11	1
Iron, Dissolved	0.050	U	0.050		mg/L		05/26/11 10:31	05/26/11 22:11	1
Manganese	0.010	U	0.010		mg/L		05/26/11 10:31	05/26/11 22:11	1
Manganese, Dissolved	0.010	U	0.010		mg/L		05/26/11 10:31	05/26/11 22:11	1

Lab Sample ID: LCS 680-204145/2-A
Matrix: Water
Analysis Batch: 204264

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 204145

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	1.00	1.06		mg/L		106	75 - 125
Iron, Dissolved	1.00	1.06		mg/L		106	75 - 125
Manganese	0.500	0.528		mg/L		106	75 - 125
Manganese, Dissolved	0.500	0.528		mg/L		106	75 - 125

Lab Sample ID: 680-68658-3 MS
Matrix: Water
Analysis Batch: 204264

Client Sample ID: GM-31A-F(2)-0511
Prep Type: Dissolved
Prep Batch: 204145

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Iron	0.050		1.00	1.08		mg/L		108	75 - 125

TestAmerica Savannah

7/18/11
AC

QC Sample Results

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 680-68658-3 MS

Matrix: Water

Analysis Batch: 204264

Client Sample ID: GM-31A-F(.2)-0511

Prep Type: Dissolved

Prep Batch: 204145

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	% Rec	% Rec.	
	Result	Qualifier	Added	Result	Qualifier				Limits	
Iron, Dissolved	0.050	U	1.00	1.08		mg/L		108	75 - 125	
Manganese	0.71		0.500	1.25		mg/L		108	75 - 125	
Manganese, Dissolved	0.71		0.500	1.25		mg/L		108	75 - 125	

Lab Sample ID: 680-68658-3 MSD

Matrix: Water

Analysis Batch: 204264

Client Sample ID: GM-31A-F(.2)-0511

Prep Type: Dissolved

Prep Batch: 204145

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	% Rec	% Rec.		RPD
	Result	Qualifier	Added	Result	Qualifier				Limits		
Iron	0.050		1.00	1.06		mg/L		106	75 - 125	2	20
Iron, Dissolved	0.050	U	1.00	1.06		mg/L		106	75 - 125	2	20
Manganese	0.71		0.500	1.21		mg/L		100	75 - 125	3	20
Manganese, Dissolved	0.71		0.500	1.21		mg/L		100	75 - 125	3	20

Method: 310.1 - Alkalinity

Lab Sample ID: MB 680-203937/3

Matrix: Water

Analysis Batch: 203937

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	5.0	U	5.0		mg/L			05/24/11 17:04	1
Carbon Dioxide, Free	5.0	U	5.0		mg/L			05/24/11 17:04	1

Lab Sample ID: LCS 680-203937/4

Matrix: Water

Analysis Batch: 203937

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.	
							Limits	
Alkalinity	252	250		mg/L		99	80 - 120	

Lab Sample ID: LCSD 680-203937/13

Matrix: Water

Analysis Batch: 203937

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike	LCSD	LCSD	Unit	D	% Rec	% Rec.		RPD
							Limits		
Alkalinity	252	248		mg/L		98	80 - 120	1	30

Lab Sample ID: 680-68658-4 DU

Matrix: Water

Analysis Batch: 203937

Client Sample ID: GM-58A-0511

Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Alkalinity	490		485		mg/L		0.3	30
Carbon Dioxide, Free	47		50.4		mg/L		6	30

7/18/11
Aer

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Method: 325.2 - Chloride

Lab Sample ID: MB 680-204782/10
Matrix: Water
Analysis Batch: 204782

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0		mg/L			06/03/11 11:50	1

Lab Sample ID: LCS 680-204782/2
Matrix: Water
Analysis Batch: 204782

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Chloride	50.0	51.3		mg/L		103	85 - 115

Method: 353.2 - Nitrogen, Nitrate-Nitrite

Lab Sample ID: MB 680-203928/14
Matrix: Water
Analysis Batch: 203928

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	0.050	U	0.050		mg/L			05/24/11 16:11	1
Nitrate Nitrite as N	0.050	U	0.050		mg/L			05/24/11 16:11	1
Nitrite as N	0.050	U	0.050		mg/L			05/24/11 16:11	1

Lab Sample ID: LCS 680-203928/15
Matrix: Water
Analysis Batch: 203928

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	0.500	0.502		mg/L		100	90 - 110
Nitrate Nitrite as N	1.00	0.997		mg/L		100	90 - 110
Nitrite as N	0.500	0.495		mg/L		99	90 - 110

Lab Sample ID: 680-68658-1 MS
Matrix: Water
Analysis Batch: 203928

Client Sample ID: GM-31A-0511
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Nitrate as N	3.4		0.500	3.85	4	mg/L		95	
Nitrate Nitrite as N	3.4		1.00	4.37		mg/L		98	90 - 110
Nitrite as N	0.25		0.500	0.521		mg/L		104	90 - 110

Lab Sample ID: 680-68658-1 MSD
Matrix: Water
Analysis Batch: 203928

Client Sample ID: GM-31A-0511
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Nitrate as N	3.4		0.500	3.85	4	mg/L		94		0	
Nitrate Nitrite as N	3.4		1.00	4.37		mg/L		98	90 - 110	0	10
Nitrite as N	0.25		0.500	0.525		mg/L		105	90 - 110	1	10

7/18/14
AL

QC Sample Results

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Method: 375.4 - Sulfate

Lab Sample ID: MB 680-205162/1
Matrix: Water
Analysis Batch: 205162

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	5.0	U	5.0		mg/L			06/07/11 17:35	1

Lab Sample ID: LCS 680-205162/2
Matrix: Water
Analysis Batch: 205162

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Sulfate	20.0	19.3		mg/L		96	75 - 125

Method: 415.1 - DOC

Lab Sample ID: MB 680-204737/1
Matrix: Water
Analysis Batch: 204737

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.0	U	1.0		mg/L			06/02/11 08:47	1

Lab Sample ID: LCS 680-204737/2
Matrix: Water
Analysis Batch: 204737

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	% Rec	% Rec. Limits
Dissolved Organic Carbon	20.0	19.6		mg/L		98	80 - 120

Lab Sample ID: 680-68658-3 MS
Matrix: Water
Analysis Batch: 204737

Client Sample ID: GM-31A-F(.2)-0511
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	% Rec	% Rec. Limits
Dissolved Organic Carbon	2.9		20.0	22.8		mg/L		99	80 - 120

Lab Sample ID: 680-68658-3 MSD
Matrix: Water
Analysis Batch: 204737

Client Sample ID: GM-31A-F(.2)-0511
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	% Rec	% Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	2.9		20.0	22.6		mg/L		98	80 - 120	1	20

Method: 415.1 - TOC

Lab Sample ID: MB 680-204611/2
Matrix: Water
Analysis Batch: 204611

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	1.0	U	1.0		mg/L			06/01/11 09:00	1

7/18/14
AC

QC Sample Results

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Method: 415.1 - TOC (Continued)

Lab Sample ID: LCS 680-204611/4

Matrix: Water

Analysis Batch: 204611

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	% Rec	% Rec.
	Added	Result	Qualifier				Limits
Total Organic Carbon	20.0	19.6		mg/L		98	80 - 120

7/18/14
AL

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

GC/MS Semi VOA

Prep Batch: 203986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-68658-1	GM-31A-0511	Total/NA	Water	3520C	
680-68658-2	GM-31A-0511-AD	Total/NA	Water	3520C	
680-68658-4	GM-58A-0511	Total/NA	Water	3520C	
680-68658-6	GM-58A-0511-EB	Total/NA	Water	3520C	
MB 680-203986/14-A	Method Blank	Total/NA	Water	3520C	
LCS 680-203986/15-A	Lab Control Sample	Total/NA	Water	3520C	
680-68658-4 MS	GM-58A-0511	Total/NA	Water	3520C	
680-68658-4 MSD	GM-58A-0511	Total/NA	Water	3520C	

Analysis Batch: 205083

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-203986/14-A	Method Blank	Total/NA	Water	8270C	203986
LCS 680-203986/15-A	Lab Control Sample	Total/NA	Water	8270C	203986
680-68658-1	GM-31A-0511	Total/NA	Water	8270C	203986
680-68658-2	GM-31A-0511-AD	Total/NA	Water	8270C	203986
680-68658-4	GM-58A-0511	Total/NA	Water	8270C	203986
680-68658-6	GM-58A-0511-EB	Total/NA	Water	8270C	203986

Analysis Batch: 205183

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-68658-4 MS	GM-58A-0511	Total/NA	Water	8270C	203986
680-68658-4 MSD	GM-58A-0511	Total/NA	Water	8270C	203986

GC VOA

Analysis Batch: 204167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-204167/6	Lab Control Sample	Total/NA	Water	RSK-175	
LCSD 680-204167/7	Lab Control Sample Dup	Total/NA	Water	RSK-175	
MB 680-204167/8	Method Blank	Total/NA	Water	RSK-175	
680-68658-1	GM-31A-0511	Total/NA	Water	RSK-175	
680-68658-4	GM-58A-0511	Total/NA	Water	RSK-175	

Metals

Prep Batch: 204145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-204145/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 680-204145/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
680-68658-1	GM-31A-0511	Total Recoverable	Water	3005A	
680-68658-3	GM-31A-F(2)-0511	Dissolved	Water	3005A	
680-68658-3 MS	GM-31A-F(2)-0511	Dissolved	Water	3005A	
680-68658-3 MSD	GM-31A-F(2)-0511	Dissolved	Water	3005A	
680-68658-4	GM-58A-0511	Total Recoverable	Water	3005A	
680-68658-5	GM-58A-F(2)-0511	Dissolved	Water	3005A	

Analysis Batch: 204264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-204145/1-A	Method Blank	Total Recoverable	Water	6010B	204145
LCS 680-204145/2-A	Lab Control Sample	Total Recoverable	Water	6010B	204145
680-68658-1	GM-31A-0511	Total Recoverable	Water	6010B	204145
680-68658-3	GM-31A-F(2)-0511	Dissolved	Water	6010B	204145

TestAmerica Savannah

7/16/14
AC

QC Association Summary

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Metals (Continued)

Analysis Batch: 204264 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-68658-3 MS	GM-31A-F(.2)-0511	Dissolved	Water	6010B	204145
680-68658-3 MSD	GM-31A-F(.2)-0511	Dissolved	Water	6010B	204145
680-68658-4	GM-58A-0511	Total Recoverable	Water	6010B	204145
680-68658-5	GM-58A-F(.2)-0511	Dissolved	Water	6010B	204145

General Chemistry

Analysis Batch: 203928

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-203928/14	Method Blank	Total/NA	Water	353.2	
LCS 680-203928/15	Lab Control Sample	Total/NA	Water	353.2	
680-68658-4	GM-58A-0511	Total/NA	Water	353.2	
680-68658-1	GM-31A-0511	Total/NA	Water	353.2	
680-68658-1 MS	GM-31A-0511	Total/NA	Water	353.2	
680-68658-1 MSD	GM-31A-0511	Total/NA	Water	353.2	

Analysis Batch: 203937

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-203937/3	Method Blank	Total/NA	Water	310.1	
LCS 680-203937/4	Lab Control Sample	Total/NA	Water	310.1	
680-68658-1	GM-31A-0511	Total/NA	Water	310.1	
680-68658-4	GM-58A-0511	Total/NA	Water	310.1	
680-68658-4 DU	GM-58A-0511	Total/NA	Water	310.1	
LCSD 680-203937/13	Lab Control Sample Dup	Total/NA	Water	310.1	

Analysis Batch: 204611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-204611/2	Method Blank	Total/NA	Water	415.1	
LCS 680-204611/4	Lab Control Sample	Total/NA	Water	415.1	
680-68658-1	GM-31A-0511	Total/NA	Water	415.1	
680-68658-4	GM-58A-0511	Total/NA	Water	415.1	

Analysis Batch: 204737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-204737/1	Method Blank	Dissolved	Water	415.1	
LCS 680-204737/2	Lab Control Sample	Dissolved	Water	415.1	
680-68658-3	GM-31A-F(.2)-0511	Dissolved	Water	415.1	
680-68658-3 MS	GM-31A-F(.2)-0511	Dissolved	Water	415.1	
680-68658-3 MSD	GM-31A-F(.2)-0511	Dissolved	Water	415.1	
680-68658-5	GM-58A-F(.2)-0511	Dissolved	Water	415.1	

Analysis Batch: 204782

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 680-204782/2	Lab Control Sample	Total/NA	Water	325.2	
MB 680-204782/10	Method Blank	Total/NA	Water	325.2	
680-68658-1	GM-31A-0511	Total/NA	Water	325.2	
680-68658-4	GM-58A-0511	Total/NA	Water	325.2	

Analysis Batch: 205162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 680-205162/1	Method Blank	Total/NA	Water	375.4	
LCS 680-205162/2	Lab Control Sample	Total/NA	Water	375.4	

TestAmerica Savannah

7/18/14
AG

QC Association Summary

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

General Chemistry (Continued)

Analysis Batch: 205162 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
680-68658-1	GM-31A-0511	Total/NA	Water	375.4	
680-68658-4	GM-58A-0511	Total/NA	Water	375.4	

10

7/15/14
AL

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Client Sample ID: GM-31A-0511

Lab Sample ID: 680-68658-1

Date Collected: 05/23/11 10:15

Matrix: Water

Date Received: 05/24/11 09:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			993.6 mL	1 mL	203986	05/25/11 14:53	RBS	TAL SAV
Total/NA	Analysis	8270C		1			205083	06/06/11 14:36	LH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	204167	05/26/11 15:22	AGM	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	204145	05/26/11 10:31	RA	TAL SAV
Total Recoverable	Analysis	6010B		1			204264	05/26/11 22:36	BCB	TAL SAV
Total/NA	Analysis	353.2		5	2 mL	2 mL	203928	05/24/11 16:42	JR	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	203937	05/24/11 17:48	TR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	204611	06/01/11 15:36	TH	TAL SAV
Total/NA	Analysis	325.2		1	2 mL	2 mL	204782	06/03/11 12:30	JR	TAL SAV
Total/NA	Analysis	375.4		5	2 mL	2 mL	205162	06/07/11 17:53	JR	TAL SAV

Client Sample ID: GM-31A-0511-AD

Lab Sample ID: 680-68658-2

Date Collected: 05/23/11 10:15

Matrix: Water

Date Received: 05/24/11 09:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			1005.8 mL	1 mL	203986	05/25/11 14:53	RBS	TAL SAV
Total/NA	Analysis	8270C		1			205083	06/06/11 15:06	LH	TAL SAV

Client Sample ID: GM-31A-F(.2)-0511

Lab Sample ID: 680-68658-3

Date Collected: 05/23/11 10:15

Matrix: Water

Date Received: 05/24/11 09:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	204145	05/26/11 10:31	RA	TAL SAV
Dissolved	Analysis	6010B		1			204264	05/26/11 22:41	BCB	TAL SAV
Dissolved	Analysis	415.1		1			204737	06/02/11 08:47	TH	TAL SAV

Client Sample ID: GM-58A-0511

Lab Sample ID: 680-68658-4

Date Collected: 05/23/11 11:25

Matrix: Water

Date Received: 05/24/11 09:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			500.5 mL	0.5 mL	203986	05/25/11 14:53	RBS	TAL SAV
Total/NA	Analysis	8270C		1			205083	06/06/11 15:35	LH	TAL SAV
Total/NA	Analysis	RSK-175		1	17000 uL	17 mL	204167	05/26/11 15:35	AGM	TAL SAV
Total Recoverable	Prep	3005A			50 mL	50 mL	204145	05/26/11 10:31	RA	TAL SAV
Total Recoverable	Analysis	6010B		1			204264	05/26/11 23:17	BCB	TAL SAV
Total/NA	Analysis	353.2		1	2 mL	2 mL	203928	05/24/11 16:17	JR	TAL SAV
Total/NA	Analysis	310.1		1	30 mL	30 mL	203937	05/24/11 17:58	TR	TAL SAV
Total/NA	Analysis	415.1		1	25 mL	25 mL	204611	06/01/11 15:51	TH	TAL SAV
Total/NA	Analysis	325.2		1	2 mL	2 mL	204782	06/03/11 12:30	JR	TAL SAV
Total/NA	Analysis	375.4		5	2 mL	2 mL	205162	06/07/11 17:53	JR	TAL SAV

TestAmerica Savannah

7/15/14
AC

Lab Chronicle

Client: Solutia Inc.
Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1
SDG: KOM012

Client Sample ID: GM-58A-F(.2)-0511

Lab Sample ID: 680-68658-5

Date Collected: 05/23/11 11:25

Matrix: Water

Date Received: 05/24/11 09:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			50 mL	50 mL	204145	05/26/11 10:31	RA	TAL SAV
Dissolved	Analysis	6010B		1			204264	05/26/11 23:22	BCB	TAL SAV
Dissolved	Analysis	415.1		1			204737	06/02/11 08:47	TH	TAL SAV

Client Sample ID: GM-58A-0511-EB

Lab Sample ID: 680-68658-6

Date Collected: 05/23/11 11:25

Matrix: Water

Date Received: 05/24/11 09:41

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared Or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			975.4 mL	1 mL	203986	05/25/11 14:53	RBS	TAL SAV
Total/NA	Analysis	8270C		1			205083	06/06/11 16:05	LH	TAL SAV

Laboratory References:

TAL SAV = TestAmerica Savannah, 5102 LaRoche Avenue, Savannah, GA 31404, TEL (912)354-7858

7/18/11
AC

Serial Number 039897

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

☒ TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

☐ Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE W6K Drum 2Q11		PROJECT NO. J017210.16	PROJECT LOCATION (STATE) FL	MATRIX TYPE	REQUIRED ANALYSIS										PAGE 1	OF 1
TAL (LAB) PROJECT MANAGER GM Rinaldi		P.O. NUMBER	CONTRACT NO.	COMPOSITE (C) OR GRAB (G) INDICATE AQUEOUS (WATER) SOLID OR SEMISOLID AIR NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	SVOC 82700	Total Pcr/mn	Alka / Co2	Chloride 325.2	Sulfate 375.4	Phosphate 375.4	Nitrate 353.2	TOL 415.1	Diss Pcr/mn	DOC 415.1	STANDARD REPORT DELIVERY <input checked="" type="checkbox"/>	
CLIENT (SITE) PM GM Rinaldi		CLIENT PHONE 314-674-3312	CLIENT FAX 314-674-8588		DATE DUE											
CLIENT NAME Solutia Inc		CLIENT E-MAIL jmerina@solutia.com			EXPEDITED REPORT DELIVERY (SURCHARGE) <input type="checkbox"/>											
CLIENT ADDRESS 575 Mayville Center Dr, St. Louis, MO					DATE DUE											
COMPANY CONTRACTING THIS WORK (if applicable)					NUMBER OF COOLERS SUBMITTED PER SHIPMENT:											
SAMPLE		SAMPLE IDENTIFICATION			NUMBER OF CONTAINERS SUBMITTED										REMARKS	
DATE	TIME															
5-23-11	1015	6M-31A-0511			6	2	1	1	1	3	2	1				
	1015	6M-31A-0511 - AD			6	2										AD
	1015	6M-31A-FC(2)-0511			6							1	1			Filtered
	1125	6M-58A-0511			6	2	1	1	1	3	2	1				
	1125	6M-58A-FC(2)-0511			6							1	1			Filtered
	1125	6M-58A-0511 - MS			6	2										MS
	1125	6M-58A-0511 - MSD			6	2										MSD
	1125	6M-58A-0511 - EB			6	2										EB
RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	RELINQUISHED BY: (SIGNATURE)		DATE	TIME	
7/8/11 AG		5-23-11	1330													
RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	RECEIVED BY: (SIGNATURE)		DATE	TIME	
LABORATORY USE ONLY																
RECEIVED FOR LABORATORY BY: (SIGNATURE)		DATE	TIME	CUSTODY INTACT YES <input type="radio"/> NO <input type="radio"/>	CUSTODY SEAL NO.	SAVANNAH LOG NO. 680-68658	LABORATORY REMARKS Temp 1.0°C/0.9°C									
Beth A Daugherty		5/24/11	0941													

Login Sample Receipt Checklist

Client: Solutia Inc.

Job Number: 680-68658-1

SDG Number: KOM012

Login Number: 68658

List Source: TestAmerica Savannah

List Number: 1

Creator: Daughtry, Beth

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	False	-4MS: Rec'd 1 liter amber broken
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	pH>2 -1E, 3B, -4E, -5A&B
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

7/18/14
AC

Certification Summary

Client: Solutia Inc.

Project/Site: WGK Route 3 Drum Site O&M - GW 2Q11

TestAmerica Job ID: 680-68658-1

SDG: KOM012

Laboratory	Authority	Program	EPA Region	Certification ID
TestAmerica Savannah	A2LA	DoD ELAP		0399-01
TestAmerica Savannah	A2LA	ISO/IEC 17025		399.01
TestAmerica Savannah	Alabama	State Program	4	41450
TestAmerica Savannah	Arkansas	Arkansas DOH	6	N/A
TestAmerica Savannah	Arkansas	State Program	6	88-0692
TestAmerica Savannah	California	NELAC	9	3217CA
TestAmerica Savannah	Colorado	State Program	8	N/A
TestAmerica Savannah	Connecticut	State Program	1	PH-0161
TestAmerica Savannah	Delaware	State Program	3	N/A
TestAmerica Savannah	Florida	NELAC	4	EB7052
TestAmerica Savannah	Georgia	Georgia EPD	4	N/A
TestAmerica Savannah	Georgia	State Program	4	803
TestAmerica Savannah	Guam	State Program	9	09-005r
TestAmerica Savannah	Hawaii	State Program	9	N/A
TestAmerica Savannah	Illinois	NELAC	5	200022
TestAmerica Savannah	Indiana	State Program	5	N/A
TestAmerica Savannah	Iowa	State Program	7	353
TestAmerica Savannah	Kansas	NELAC	7	E-10322
TestAmerica Savannah	Kentucky	Kentucky UST	4	18
TestAmerica Savannah	Kentucky	State Program	4	90084
TestAmerica Savannah	Louisiana	NELAC	6	30690
TestAmerica Savannah	Louisiana	NELAC	6	LA100015
TestAmerica Savannah	Maine	State Program	1	GA00006
TestAmerica Savannah	Maryland	State Program	3	250
TestAmerica Savannah	Massachusetts	State Program	1	M-GA006
TestAmerica Savannah	Michigan	State Program	5	9925
TestAmerica Savannah	Mississippi	State Program	4	N/A
TestAmerica Savannah	Montana	State Program	8	CERT0081
TestAmerica Savannah	Nebraska	State Program	7	TestAmerica-Savannah
TestAmerica Savannah	Nevada	State Program	9	GA6
TestAmerica Savannah	New Jersey	NELAC	2	GA769
TestAmerica Savannah	New Mexico	State Program	6	N/A
TestAmerica Savannah	New York	NELAC	2	10842
TestAmerica Savannah	North Carolina	North Carolina DENR	4	269
TestAmerica Savannah	North Carolina	North Carolina PHL	4	13701
TestAmerica Savannah	Oklahoma	State Program	6	9984
TestAmerica Savannah	Pennsylvania	NELAC	3	68-00474
TestAmerica Savannah	Puerto Rico	State Program	2	GA00006
TestAmerica Savannah	Rhode Island	State Program	1	LAQ00244
TestAmerica Savannah	South Carolina	State Program	4	98001
TestAmerica Savannah	Tennessee	State Program	4	TN02961
TestAmerica Savannah	Texas	NELAC	6	T104704185-08-TX
TestAmerica Savannah	USDA	USDA		SAV 3-04
TestAmerica Savannah	Vermont	State Program	1	87052
TestAmerica Savannah	Virginia	State Program	3	302
TestAmerica Savannah	West Virginia	West Virginia DEP	3	94
TestAmerica Savannah	West Virginia	West Virginia DHHR (DW)	3	9950C
TestAmerica Savannah	Wisconsin	State Program	5	999819810
TestAmerica Savannah	Wyoming	State Program	8	8TMS-Q

Accreditation may not be offered or required for all methods and analytes reported in this package. Please contact your project manager for the laboratory's current list of certified methods and analytes.

TestAmerica Savannah

7/1/14
AC



MJW CORPORATION

Radiation Consulting Professionals

August 2, 2011

Mr. Duane T. Kreuger
Geotechnology, Inc.
11816 Lackland Road Suite 150
St. Louis, MO 63146

Dear Mr. Kreuger:

The data reported by Test America Laboratories under SDG KOM012 has been reviewed for quality assurance validation. Data was reported for Volatiles (dissolved gases), Semi-Volatiles, ICP Metals (total and dissolved), Chloride, Nitrate, Sulfate, Organic Carbon (total and dissolved), Alkalinity, and Carbon Dioxide for 8 samples as requested by Geotechnology, Inc. The 8 samples listed below were validated by MJW. The samples in **bold type** have been validated for level IV validation. The data in this report has been approved for use as no samples required qualification.

- **GM-31A-0511 (Lab ID: 680-68658-1)**
- **GM-31A-F(0.2)-0511 (Lab ID: 680-68658-3)**
- GM-31A-0511 AD (Lab ID: 680-68658-2 FD)
- **GM-58A-0511 (Lab ID: 680-68658-4)**
- GM-58A-0511-MS (Lab ID: 680-68658-4MS)
- GM-58A-0511-MSD (Lab ID: 680-68658-4MSD)
- **GM-58A-F(0.2)-0511 (Lab ID: 680-68658-5)**
- GM-58A-0511-EB (Lab ID: 680-68658-6EB)

If you have any questions concerning this data validation report, please contact me at 585-344-7197.

Very truly yours,

MJW Corporation Inc.

Annette Guilds, CES
Senior Scientist

Approved by:

David A. Dooley, Ph.D., CHP
President, MJW Corporation Inc.

2010-1918.013

KOM012

University Park, 1900 Sweet Home Road
Amherst, NY 14228-3359

Voice: (716) 631.8291 Fax: (716) 631.5631 Toll Free: 1 (888) MJW.CORP www.mjwcorp.com

QUALITY ASSURANCE REPORT

Solutia Inc.

W.G. Krummrich Facility

Sauget, Illinois

2nd Quarter 0511 Data Validation Report

Illinois Route 3 Drum Site

SDG: KOM012

Prepared for

GEOTECHNOLOGY, INC.

11816 Lackland Road, Suite 150

St. Louis, MO 63146

August 2011

MJW

MJW Corporation, Inc.

1900 Sweet Home Road

Amherst, NY 14228

(716)-631-8291

Project # 2010-1918

**DATA ASSESSMENT NARRATIVE
(ORGANICS)**

ORGANIC DATA ASSESSMENT

Functional Guidelines for Evaluating Organic Analysis

CASE NO.: _____ SDG NO.: KOM012 LABORATORY: Test America
SITE: Solutia W.G. Krummrich Plant (Drum Site)

DATA ASSESSMENT

The current SOP No. HW-6 (Revision 11), June 1996 for CLP Organics Review and Preliminary Review has been applied.

All data were found to be valid and acceptable except those analytes that have been rejected, "R" (unusable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material), "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All action is detailed on the attached sheets.

The "R" flag means that the associated value is unusable. In other words, significant data bias is evident and the reported analyte concentration is unreliable.

Data is fully usable and acceptable.

Reviewer's
Signature: Annette Guitard Date: 8/2/2011

MJW Approval: Louis Henry Date: 8/2/2011

1. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following action was taken in the samples and analytes shown due to excessive holding time.

No action necessary.

2. SURROGATES:

All samples are spiked with surrogate compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below.

No action necessary.

3. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The MS/MSD may be used in conjunction with other QC criteria for additional qualification of data.

No action necessary.

4. BLANK CONTAMINATION:

Quality assurance (QA) blanks, i.e., method, trip, field, or rinse blanks are prepared to identify any contamination, which may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following analytes in the sample shown were qualified with "U" for these reasons:

A) Method blank contamination:

No action necessary.

B) Field or rinse blank contamination:

No action necessary.

C) Trip blank contamination:

No action necessary.

5. MASS SPECTROMETER TUNING:

Tuning and performance criteria are established to ensure adequate mass resolution, proper identification of compounds and to some degree, sufficient instrument sensitivity. These criteria are not sample specific. Instrument performance is determined using standard materials. Therefore, these criteria should be met in all circumstances. The tuning standard for volatile organics is (BFB) Bromofluorobenzene and for semi-volatiles Decafluorotriphenyl-phosphine (DFTPP).

If the mass calibration is in error, all associated data will be classified as unusable "R".

No action necessary.

6. CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration checks document that the instrument is giving satisfactory daily performance.

A) Response Factor GC/MS:

The response factor measures the instrument's response to specific chemical compounds. The response factor for the Target Compound List (TCL) must be ≥ 0.05 in both initial and continuing calibrations. A value < 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Analytes detected in the sample will be qualified as estimated, "J". All non-detects for that compound will be rejected "R".

No action necessary.

7. CALIBRATION:

B) Percent Relative Standard Deviation (%RSD) and Percent Difference (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 30% and %D must be < 25%. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ". If %RSD and %D grossly exceed QC criteria, non-detects data may be qualified "R".

For the PEST/PCB fraction, if %RSD exceeds 20% for all analytes except for the two surrogates (which must not exceed 30% RSD), qualify all associated positive results "J" and non-detects "UJ".

The following analytes in the sample shown were qualified for %RSD and %D:

No action necessary.

8. INTERNAL STANDARDS PERFORMANCE GC/MS:

Internal standards (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every experimental run. The internal standard area count must not vary by more than a factor of 2 (-50% to +100%) from the associated continuing calibration standard. The retention time of the internal standard must not vary more than ± 30 seconds from the associated continuing calibration standard. If the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified as estimated, "J", and all non-detects as "UJ", or "R" if there is a severe loss of sensitivity.

If an internal standard retention time varies by more than 30 seconds, the reviewer will use professional judgment to determine either partial or total rejection of the data for that sample fraction.

No action necessary.

9. COMPOUND IDENTIFICATION:

A) Volatile and Semi-Volatile Fractions:

TCL compounds are identified on the GC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectra which has a ratio of the primary and secondary m/e intensities within 20% of that in the standard compound. For the tentatively identified compounds (TIC) the ion spectra must match accurately. In the cases where there is not an adequate ion spectrum match, the laboratory may have provided false positive identifications.

No action necessary.

B) Pesticide Fraction:

The retention times of reported compounds must fall within the calculated retention time windows for the two chromatographic columns and a GC/MS confirmation is required if the concentration exceeds 10ng/ml in the final sample extract.

N/A

10. CONTRACT PROBLEMS NON-COMPLIANCE: **None**

11. FIELD DOCUMENTATION: **A field duplicate was analyzed for sample GM-31A-0511. The RPD was 12.9% for 2,4,6-Trichlorophenol. All other analytes were non-detect and therefore were not evaluated.**

12. OTHER PROBLEMS: **None**

13. This package contains reextractions, reanalyses or dilutions. Upon reviewing the QA results, the following Form 1(s) are identified to be used.

None

**DATA ASSESSMENT NARRATIVE
(INORGANICS)**

INORGANIC DATA ASSESSMENT NARRATIVE

Site: Solutia W.G. Krummich Plant (Drum Site) Matrix: Soil _____
SDG# KOM012 Lab Test America Water X _____
Contractor Geotechnology Inc. Reviewer Annette Guilds-MJW Other _____

A.2.1 Validation Flags- The following flags have been applied in red by the data validator and must be considered by the data user.

J- This flag indicates the result qualified as estimated

Red- Line- A red line drawn through a sample result indicates unusable value. The red lined data are known to contain significant errors based on documented information and must not be used by the data user.

Fully Usable Data- The results that do not carry "J" or "red-line" are fully usable.

Contractual Qualifiers- The legend of contractual qualifiers applied by the lab on Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below.

- Data is fully acceptable and usable.

The following bulleted items summarize additional comments where data has not been qualified but it is recommended that additional communication with the laboratory be conducted to further assess the data.

- CCV/CCB Form II for Nitrate page 392 was incomplete. The validator has performed hand calculations and has enclosed the corrected form in this report.

A.2.3 Contract-Problem/Non-Compliance

•

Data Reviewer: Annette Guilds Date: 8/5/2011
Signature
MJW Approval: David A. Doherty Date: 8/5/2011
Signature